

REMARKS

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-31 are now present in the application. Claims 1-20 have been amended. Claims 21-31 have been added. Claims 1, 9 and 19 are independent. Reconsideration of this application, as amended, is respectfully requested.

Priority Under 35 U.S.C. §119

Applicant thanks the Examiner for acknowledging Applicant's claim for foreign priority under 35 U.S.C. §119, and receipt of the certified priority document.

Information Disclosure Citation

Applicant thanks the Examiner for considering the references supplied with the Information Disclosure Statement filed on February 14, 2005, and for providing Applicant with an initialed copy of the PTO-1449 form filed therewith.

Drawings

The Examiner did not indicate whether or not the formal drawings have been accepted. Since no objection has been received, Applicant assumes that the drawings are acceptable and that no further action is necessary. Confirmation thereof in the next Office Action is respectfully requested.

Claim Rejections Under 35 U.S.C. §§ 102 & 103

Claims 1, 2, 5-9 and 18-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Burkett, U.S. Patent No. 5,352,865. Claims 3, 10, 11 and 13-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Burkett in view of Takano, U.S. Patent No. 4,883,944. Claims 4, 12 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Burkett in view of Fernandez, U.S. Patent No. 5,325,822. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

In light of the foregoing amendments to the claims, Applicant respectfully submits that these rejections have been obviated and/or rendered moot. Without conceding to the propriety of the Examiner's rejections, but merely to timely advance the prosecution of the application, as the Examiner will note, independent claims 1, 9 and 19 have been amended to address the Examiner's rejections.

Independent claim 1 now recites a combination of elements including "at least one heater which operates with a variable heating on/off cycle, the variable heating on/off cycle including a heater-on time and a heater-off time", "after the at least one heater operates for a current cycle period with a current heating on/off cycle, the controller generates a new heating on/off cycle by adjusting the heater-on time of the current heating on/off cycle based on a difference between a current temperature in the oven and the set temperature" and "the at least one heater operating with the new heating on/off cycle in a next cycle period."

Independent claim 9 now recites a combination of steps including “heating the oven by operating at least one heater with a current heating on/off cycle in a current cycle period, the current heating on/off cycle including a heater-on time and a heater-off time”, “after the current cycle period is completed, generating a new heating on/off cycle by adjusting the heater-on time of the current heating on/off cycle based on a difference between a current temperature in the oven and a set temperature” and “operating the at least one heater with the new heating on/off cycle in a next cycle period.”

Independent claim 19 now recites a combination of elements including “each of the heaters operating with a variable heating on/off cycle, the variable heating on/off cycle including a heater-on time and a heater-off time”, “after the at least one of the heaters operates for a current cycle period with a current heating on/off cycle, the controller generates a new heating on/off cycle by adjusting the heater-on time of the current heating on/off cycle based on the difference between the current temperature in the oven and the set temperature” and “the at least one of the heaters operating with the new heating on/off cycle in a next cycle period.”

Support for the above combinations of elements and steps can be found in FIG. 2 and on the paragraph beginning on page 10, line 21 of the specification as originally filed. Applicant respectfully submits that the combinations of elements and steps set forth in claims 1, 9 and 19 are not disclosed or suggested by the references relied on by the Examiner.

Burkett discloses that the interval time and the on/off status of the heater can be respectively set in the “brown”, “cooking” and “finish” intervals (see FIG. 3 and col. 7, lines 5-12). However, once the heater is set on in a specific interval, the heater must be always on during the entire interval. In other words, there is no heater-off time during the interval in which the heater is set on. Accordingly, Burkett fails to teach “at least one heater which operates with a

variable heating on/off cycle, the variable heating on/off cycle including a heater-on time and a heater-off time” as recited in claim 1, “heating the oven by operating at least one heater with a current heating on/off cycle in a current cycle period, the current heating on/off cycle including a heater-on time and a heater-off time” as recited in claim 9, and “each of the heaters operating with a variable heating on/off cycle, the variable heating on/off cycle including a heater-on time and a heater-off time” as recited in claim 19.

Although Burkett in FIGs. 2a and 2b discloses shorting the heater-on time (i.e., the preset interval time) of the heater by using the variable compensated second (LcSec) calculated based on the temperature difference of the actual temperature and the desired temperature, Burkett fails to disclose adjusting the compensated second LcSec based on the current compensated second LcSec. Instead, Burkett obtains the new compensated second LcSec simply based on the temperature difference of the actual temperature and the desired temperature without considering the current compensated second LcSec (see steps 235 thorough 285 and the goto block “2” in FIGs. 2a and 2b). In other words, the new compensated second LcSec is calculated independent of the current compensated second LcSec.

Unlike Burkett, the present invention generates a new heating on/off cycle by adjusting the heater-on time of the current heating on/off cycle. For example, as embodied on the paragraph beginning on page 10, line 21 of the specification, if the current heater cycle has a 5-second heater-on time and a 5-second heater-off time. After the current cycle is complete (i.e., $5+5 = 10$ seconds), and the current temperature in the oven is 50°C and the set temperature is 300°C , the heater-on time will be increased for ten (10) more seconds (see S42 in FIG. 2) to be total 15 seconds for the new cycle (i.e., $\underline{5 \text{ (current heater-on time)}} + 10 = 15$ seconds). After the new cycle is complete (i.e., $15+5 = 20$ seconds), the current temperature in the oven is 80°C and

the set temperature is 300°C, the heater-on time will be increased for another ten (10) more seconds (see S42 in FIG. 2) to be total 25 seconds for the next cycle (i.e., 15 (current heater-on time) + 10 = 15 seconds). In other words, in the present invention, the heater-on time of the new cycle is obtained by adjusting the heater-on time of the current cycle. Since Burkett discloses that the new compensated second LcSec is calculated independently of the current compensated second LcSec, Burkett fails to teach “the controller generates a new heating on/off cycle by adjusting the heater-on time of the current heating on/off cycle based on the difference between the current temperature in the oven and the set temperature” as recited in claims 1, 9 and 19.

In addition, after obtaining the new compensated second LcSec, Burkett simply uses the new compensated second to shorten the real interval time. However, the heater still keeps on without any on/off cycle. Accordingly, Burkett fails to teach “the at least one heater/the at least one of the heaters operating with the new heating on/off cycle in a next cycle period” as recited in claims 1 and 19 and “operating the at least one heater with the new heating on/off cycle in a next cycle period” as recited in claim 9.

With regard to the Examiner’s reliance on Takano and Fernandez, these references have only been relied on for their teachings related to some dependent claims. These references also fail to disclose the above combinations of elements and steps as set forth in amended independent claims 1, 9 and 19. Accordingly, these references fail to cure the deficiencies of Burkett.

Accordingly, none of the utilized references individually or in combination teach or suggest the limitations of amended independent claims 1, 9 and 19. Therefore, Applicant

respectfully submits that amended independent claims 1, 9 and 19 clearly define over the teachings of the utilized references.

In addition, claims 2-8, 10-18 and 20 depend, either directly or indirectly, from independent claims 1, 9 and 19, and are therefore allowable based on their respective dependence from independent claims 1, 9 and 19, which are believed to be allowable.

In view of the above remarks, Applicant respectfully submits that claims 1-20 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Additional Claims

Additional claims 21-31 have been added for the Examiner's consideration.

Applicant respectfully submits that claims 21-31 are allowable due to their respective dependence on independent claims 1, 9 and 19, as well as due to the additional recitations included in these claims.

Favorable consideration and allowance of additional claims 21-31 are respectfully requested.

Additional Cited References

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state of the art, no further comments are necessary with respect thereto.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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JTE/GH/bsh

Respectfully submitted,

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